



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,972	01/26/2006	Giuseppe Carlos Sarno	038665.57313US	9474

23911 7590 09/21/2011
CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

ISSING, GREGORY C

ART UNIT	PAPER NUMBER
----------	--------------

3662

MAIL DATE	DELIVERY MODE
-----------	---------------

09/21/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,972

Applicant(s)

SARNO ET AL.

Examiner

GREGORY C. ISSING

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 2,4-6 and 18 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 2, 4, 5, 6, and 18 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-943)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Art Unit: 3662

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 4, 5, 6, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 18 is indefinite since it simply sets forth a list of parts without any structural relationships therebetween and without any communicative relationship therebetween.
4. The language "for minimizing a residual path length" is misdescriptive since it is not clear or understood how the residual path length is minimized; the path length between the emitter and receiver is defined by the path between the two, thus "minimizing" it does not appear to correctly identify what the applicant is attempting to do. The "obtaining of ground range" is indefinite since there is nothing in the claim that can reasonably be asserted to provide such; thus, the use of such fails to be clearly defined within the claim. The "obtaining of emitter location system height" is indefinite since there is nothing in the claim that can reasonably be asserted to provide such; thus, the use of such fails to be clearly defined within the claim. The "assumed refractive profile" is indefinite since there is nothing in the claim that can reasonably be asserted to provide such thus, the use of such fails to be clearly defined within the claim.
5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the radar antennas, receivers, controllers, transceivers and processor must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Art Unit: 3662

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 2, 4-6 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Minter et al (6,407,703).

8. Minter et al disclose a system and method for locating an emitter (5) of electromagnetic waves (1:37-41) comprising a plurality of airborne location system platforms (6a-6c) each of which includes means for obtaining signal measurements from the emitter including detecting a

Art Unit: 3662

time of arrival of said electromagnetic waves (9:19-24, e.g.) and a determining means, such as a Kalman filter (9:64-10:4, e.g.), for determining a location estimate based on relative time differences of arrival. Figure 2 of Minter et al show the use of at least three airborne platforms, providing for at least three combinations of pairings of receivers and thus three TDOA measurements. Each airborne platform includes an antenna for receiving the emitter signal, a receiver for measuring TOA, controller to control any of various functions, a transceiver for communicating the TOAs to a central site, and a processor for gathering the TOAs, determining TDOAs between pairs of platforms, and determining a three dimensional location of the emitter. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. The features represented with respect to the "processor" of claim 18 as well as the features of claims 2, 4, and 5 merely represent functional operations capable of being performed but do not provide any structural differentiation over the prior art.

9. Applicant's arguments filed 7/12/11 have been fully considered but they are not persuasive. Applicant's argument that the prior art fails "to suggest a plurality of emitter location systems for locating an electromagnetic wave emitter including a processor performing the residual path length minimizing operations specified in claim 18" is not persuasive since the Minter discloses a plurality of airborne platforms, i.e. a plurality of emitter location systems, for locating an RF emitter including a processor that collects information from each of the platforms for determining time differences of arrival. The claim language directed to how the processor functions fails to provide any structural distinctions over the prior art.

Art Unit: 3662

10. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicant fails to point out any structural limitations that distinguish the claim language over the prior art.

11. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

12. In response to applicant's argument that the function of the processor to perform residual path length minimizing operations is not disclosed by the prior art, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case the same measurements are made and the same structural elements are utilized. Thus, the claims fail to structurally distinguish over the prior art.

13. It is further noted that the dependent claims 2, 4, and 5 are also directed to functional language that describe how the processor operates and fail to set forth any further structural limitations of the system.

14. The previously cited prior art is again set forth below for the specifics of a showing of providing the function of compensating for path length distortions in RF transmissions through the atmosphere.

Art Unit: 3662

15. Choi et al [1] (*Localization of Target Tracking and Navigating by Correcting Atmospheric Effects*) or Choi et al [2] (*Performance Comparison of Tropospheric Propagation Models: Ray Trace Analysis Results Using World-Wide Tropospheric Databases*) or Mendes (*Modeling the Neutral-Atmospheric Propagation Delay in Radiometric Space Techniques*).

16. It is well known in the art of propagating electromagnetic waves through the atmosphere for refraction to occur wherein the two main effects of refraction are angular bending and time delay (Choi et al [1], **Abstract** and **I. Introduction**, page 1711 and **Conclusion**, page 1712; Choi et al [2], **INTRODUCTION**, pages 1-2; Mendes, **1.1 Motivation**, page 1-2 and **3.2 Neutral-atmosphere propagation delay: a definition**, pages 72+). It is also well known in the art to correct the effects of refraction using model-based or empirical measurement procedures (Choi et al [1], **II. Localization Measure with Troposphere Delay**, pages 1711-1712; Choi et al [2], **MODELING**, page 4+; Mendes, e.g. **pure modeling, direct calibration** and **self-calibration**, pages 7+). Choi et al [2] also teach the specific ray tracing equation, see Equation (45).

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 3662

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY C. ISSING whose telephone number is (571)272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GREGORY C. ISSING/
Primary Examiner
Art Unit 3662

gci